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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/628,295 | 07/28/2003 | Paul H. Mazurkiewicz | 10011011-2 | 5373 |

7590 10/19/2006

HEWLETT-PACKARD COMPANY
Intellectual Property Administration
P.O. Box 272400
Fort Collins, CO 80527-2400

EXAMINER

NGO, HUNG V

| ART UNIT | PAPER NUMBER |
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2831

DATE MAILED: 10/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/628,295

Applicant(s)

MAZURKIEWICZ, PAUL H.

Examiner

Hung V. Ngo

Art Unit

2831

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 July 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 45-54, 56-59, 68, 69, 76-88, 92-101 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 76-85 and 95-101 is/are allowed.
- 6) ☒ Claim(s) 45, 48, 68, 69 and 86 is/are rejected.
- 7) ☒ Claim(s) 46, 47, 49-54, 56-59, 87, 88 and 92-94 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 45, 48, 68, 69, 86 are rejected under 35 U.S.C. 102(b) as being anticipated by Jones (EP 0450968).

Re claims 45, 48, Jones discloses a printed circuit board (Figs 1, 2),
at least one component (14) mounted on the printed circuit board; and
a thermally conductive dielectric coating (18) adhered to surfaces of the printed circuit board and comprising an electrically nonconductive thermal loading material (boron nitride)(abstract), wherein the dielectric coating is formed from a dispersion with a viscosity and adhesion sufficient to enable the dispersion to be applied via spray techniques, wherein said dispersion viscosity and adhesion prevents dewetting when said dispersion is applied to surfaces of the printed circuit board, wherein the thermal loading material is 10%-80% (30-60%)(abstract) and the binder is 90%-20% (the remaining of polymeric matrix or ceramic matrix is 40-70%) by weight of the dispersion (abstract)

Re claim 68, wherein the thermal loading material (BN) has a conductivity of at least 20 W/mK.

Re claim 69, wherein the thermal loading material (BN) has a conductivity of at least 100 W/mK.

Re claim 86, Jones discloses a printed circuit board comprising:
a printed wiring board (Fig 1, 2);
at least one component (14) mounted on the printed wiring board; and
a thermally conductive dielectric coating (18) adhered to surfaces of the printed circuit board and comprising an electrically nonconductive thermal loading material (boron nitride) inherently having a thermal conductivity of greater than or equal to 36 W/mK, and wherein the thermal loading material comprises boron nitride (BN) (abstract).

Allowable Subject Matter

The indicated allowability of claims 45, 48, 68, 69, 86 is withdrawn in view of the newly discovered reference(s) to Jones (EP 0450968).

Claims 46, 47, 49-54, 56-59, 87, 88, 92-94 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 76-85, 95-101 are allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hung V. Ngo whose telephone number is (571) 272-1979. The examiner can normally be reached on Monday to Thursday 8:30-6:00.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dean A. Reichard can be reached on (571) 272-2800 EXT 31. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

HVN
10-15-06

Hung V Ngo

**HUNG V. NGO
PRIMARY EXAMINER**